CHAPTER 4
Alternatives

Introduction

The purpose of this section is to evaluate and compare the expected environmental effects of alternatives to the proposed 2008 RTP. CEQA Guidelines require that an EIR evaluate a "reasonable range" of potentially feasible alternatives that would attain most of the basic objectives of the Plan but would avoid or substantially lessen one or more of the significant environmental effects. In addition, a "No Project" Alternative must be evaluated and the "Environmentally Superior Alternative" must be identified. The No Project Alternative must discuss what would be expected to occur in the foreseeable future if no plan is approved. The EIR must compare the relative impacts of the alternatives with the goal of fostering informed decision-making and public participation.

In accordance with these guidelines, this PEIR analyzes a range of three alternatives in addition to the proposed 2008 RTP:

- The No Project Alternative
- The Modified 2004 RTP Alternative
- The Envision Alternative

The major characteristics of these alternatives compared to the proposed Plan are provided in **Table 4-1.**

TABLE 4-1
CHARACTERISTICS OF THE 2008 RTP ALTERNATIVES

	No Project	Plan	2004 Modified	Envision
Total Population in 2035	24,056,000	24,056,000	24,056,000	24,056,000
Total Households in 2035	7,710,000	7,710,000	7,710,000	7,710,000
Total Employment in 2035	10,287,000	10,287,000	10,287,000	10,287,000
Transportation Network	Baseline[1]	Plan	2004 RTP	Plan
Land-Use-Transportation Measures	None beyond existing	In-fill and TOD[2] where feasible	None beyond existing	Aggressive infill and TOD in the existing urban centers

[1]Baseline refers to all in-place regionally significant projects and on going travel demand programs, in addition to those projects included in the 2004 RTIP with NEPA clearance as of December 2006.
[2]Transit-Oriented Development
Source: SCAG. (2007)

No Project Alternative

The No Project Alternative includes projects and programs that would be reasonably foreseeable, absent adoption of the 2008 RTP. These projects include all in-place regionally significant highway and transit facilities, services and activities; all on-going travel demand management (TDM) or transportation system management (TSM) activities; and completion of all regionally significant projects that are currently under construction or undergoing right-of-way acquisition. These reasonably foreseeable projects also include projects listed in the first year of the 2006 Regional Transportation Improvement Program (RTIP) and have completed the National Environmental Policy Act (NEPA) process by December 2006.

The 2035 regional total population, households and employment would be the same for the No Project Alternative and the 2008 Plan. Although the totals are held constant at the regional level, growth distribution would differ at the county level. The No Project Alternative does not include land-use-transportation measures and includes fewer transportation projects. As a result, the Plan and the No Project Alternative provide differing mobility, and different employment and housing options, resulting in different distributions of growth in 2035.

Aesthetics and Views

Since the No Project Alternative includes fewer transportation projects than the 2008 RTP, it would have a lesser impact in terms of obstructing views and scenic resources, creating contrasting land uses and adding visual elements to existing natural, rural, and open space areas. The No Project would not affect any State Scenic Highways or vista points.

The No Project Alternative is expected to accommodate the same increase in total population as the proposed Plan. However, the Plan includes land use measures that would help disturbance of natural lands thereby reducing potential impacts to aesthetics and views. Under the No Project Alternative, these land use strategies may not occur – although individual jurisdictions may still seek to reduce the urban footprint through their general plans. The proposed Plan also includes transportation improvements that facilitate access to undeveloped lands, making those lands more attractive for development than under the No Project Alternative. The No Project Alternative could result in unplanned growth extending in to more vacant, open space/recreational and agricultural lands than under the Plan, thereby adding urban elements to previously undisturbed landscapes. As such, it is expected that the No Project Alternative and the Plan would cumulatively create similar types of contrasts with the overall visual character of the existing landscape setting. However, it is anticipated that the land use planning strategies included in the 2008 RTP will minimize consumption of vacant, open space/recreation and agricultural lands compared to the No Project Alternative (about 200,000 acres under the Plan and about 655,000 acres under the No Project Alternative). The Plan impacts would be less than the No Project impacts.

Air Quality

As indicated in **Tables 3.2-6 and 3.2-7** (with the exception of NOx in Western MDAB) the No Project Alternative would result in greater air quality impacts of criteria pollutants and toxic air contaminants (TACs) when compared to the 2008 RTP.

Tables 3.2-6 and 3.2-7 summarize the No Project and Plan criteria pollutant emissions estimated by nonattainment areas and SCAG counties, respectively. When compared to emissions from the current conditions, the No Project would result in greater or the same emissions of ROG, NOx, CO and SOx for all nonattainment areas and counties, except for NOx in the MDAB. No Project emissions of PM10 for all nonattainment areas and SCAG counties would be greater than PM10 emissions for current conditions. Heavy-duty truck PM10 exhaust emissions estimated by SCAG's model includes most of the diesel-related TAC emissions. As shown in **Table 3.2-8**, the No Project PM10 emissions from heavy-duty trucks would be expected to decrease from 2008 levels for each county, but be greater or the same as Plan emissions.

The No Project Alternative would result in less construction activity than implementation of the 2008 RTP. Nonetheless, the No Project Alternative includes some major construction projects, and thus the No Project Alternative would be expected to generate a substantial amount of construction activity that would likely exceed the significance thresholds established in the CEQA Guidelines. This would create a significant short-term impact.

Projected long-term emissions are considered to be cumulatively significant if they are not consistent with the local air quality management plans and state implementation plans. As previously indicated, regional emissions under the No Project Alternative are greater than under the 2008 RTP. The 2008 RTP conforms with the local air quality management plans, and thus cumulative impacts are considered less than significant. The No Project Alternative, however, may not conform to the local air quality management plans and could have a significant cumulative impact. As with the project the increase in emissions is considered significant.

Although the No Project Alternative would include fewer projects, it would result in slightly more greenhouse gas emissions than the Plan Alternative. Specifically, Future (2020) No Project conditions would result in 202.44 million metric tonnes of CO2e and Future (2035) No Project conditions would result in 233.77 million metric tonnes of CO2e, whereas the 2008 RTP Alternative would result in 201.10 million metric tonnes of CO2e in 2020 and 226.17 million metric tonnes of CO2e in 2035. Given that both alternatives would result in a net increase in greenhouse gas emissions over 2008 levels, the No Project Alternative would result in a similarly significant impact since it would increase CO2e emissions in both 2020 and 2035, inconsistent with statewide reduction goals.

Biological Resources

With fewer transportation projects than the 2008 RTP, the direct effects of transportation projects in the No Project Alternative would result in fewer disturbances of biological resources. As projects included in the No Project Alternative (which would occur regardless of adoption of the 2008 RTP) are built, the impacts to natural vegetation, sensitive species and communities, habitat

connectivity, near-road human disturbances, disturbances associated with construction generated smoke, light and noise, potential displacement of riparian and wetland areas, and siltation of water bodies would occur, but due to the reduced number of projects, would be expected to be lesser than under the Plan.

Construction impacts related to trampling of vegetation (Impact 3.3-4), would be less than under the 2008 RTP, as fewer projects would be built. Neither the No Project Alternative nor the 2008 RTP would conflict with provisions of adopted Habitat Conservation Plans or Natural Communities Conservation Plans.

The No Project Alternative is expected to accommodate the same increase in total population as the 2008 RTP. However, the 2008 RTP focuses development in existing and emerging centers, along transportation corridors, promotes transit-oriented and mixed use development and improves the regional jobs-housing balance, includes land use measures that support centers-based development, re-development and in-fill where feasible. As a result of these growth strategies, the 2008 RTP is expected to consume less acreage than the No Project Alternative. Therefore, the No Project Alternative would have greater impacts than the 2008 RTP.

The No Project Alternative's cumulative impacts to biological resources due to urban development would be expected to be greater than those of the 2008 RTP. Under the No Project future urbanization of a greater magnitude than the Plan would be expected to affect natural vegetation, habitat, and other biological resources.

Cultural Resources

Under the No Project alternative, there would be no new transportation projects beyond those projects that would occur without the Plan, With fewer transportation projects than the 2008 RTP, fewer areas would be impacted by excavation and construction activities due to transportation activities, resulting in fewer potential impacts to cultural and paleontological resources and human remains. The total acreage of undisturbed areas occurring within 150 feet of a freeway, transit, or freight rail project in the 2008 RTP is 11,700 acres compared to only 3,200 acres under the No Project alternative. Although the proposed Plan also includes additional transportation projects that facilitate access to natural lands that would be less accessible or inaccessible with the No Project Alternative. This improved accessibility could facilitate population and economic growth to areas of the region that are currently not developed.

The No Project alternative's cumulative impacts to cultural resources due to urban development would be expected to be similar to those of the 2008 RTP. Both scenarios include the same increases in population, households and employment. Future urbanization would be expected to impact existing historic resources and undisturbed areas that may contain cultural resources. It is nevertheless expected that the 2008 Plan would consume less acreage of vacant land than the No Project alternative, resulting in less disturbance and fewer impacts. The No Project alternative's cumulative impacts to cultural resources would be similar those of the 2008 RTP.

Energy

The consumption of transportation energy under the No Project would exceed that for the Plan Alternative due to an increase in VMT and VHT spent in delay as well as fewer work opportunities within 45 minutes of housing. Specifically, the No Project Alternative would consume approximately 34,250 thousand gallons of transportation fuel per day and the Plan Alternative would consume approximately 32,940 thousand gallons per day. More electricity would also be consumed under the No Project Alternative than the Plan Alternative. Therefore, the significant impact 3.5-2 identified for the Plan would be greater for the No Project Alternative. The direct impact 3.5-1, relating to energy use for construction, would likely be less under the No Project Alternative than the Plan Alternative since fewer new projects would be built. The impact 3.5-3, relating to consistencies with climate change policies, would likely remain significant under the No Project Alternative due to the increase in VMT, delay and reduced opportunities to live closer to work. The cumulative impact 3.5-4 would likely still be cumulatively considerable and significant under the No Project Alternative.

Geology, Soils, and Seismicity

With fewer transportation investments than the Plan Alternative, the No Project Alternative has less risk of damage to transportation infrastructure through surface rupture, ground shaking, liquefaction, and landsliding due to seismic events. Roadwork for the transportation projects would have less risk of increasing long-term erosion potential and slope failure. Local geology would have lower risk of potentially significant impacts to property and public safety due to subsidence and the presence of expansive soils. Under the No Project alternative, there would be no new transportation projects beyond those projects that would occur without the Plan.. Under the No Project, fewer areas would be impacted by excavation and construction activities. The increased earthwork associated with the Plan could result in greater soil instability and erosion impacts. However, at the regional level, the No Project and the Plan accommodate the same increase in population. Therefore, both the No Project and the Plan would expose the same number of people to potential seismic hazards. Due to these competing factors, and the general seismic activity of the Southern California region, the proposed 2008 Plan's impacts to geological resources would be similar to the No Project alternative.

Hazardous Materials

With fewer transportation projects, most of the potential direct and cumulative impacts of the No Project Alternative with respect to hazardous materials would likely be less than under the Plan Alternative. These impacts include risk related to transport of hazardous materials, the proximity of hazardous materials use and transportation to schools, and the risk of encountering previously contaminated sites during construction. The decreased mobility associated with the No Project Alternative, especially for heavy-duty trucks, would have a greater cumulative impact on the transport of hazardous materials in counties outside of the SCAG region.

Because there would be fewer projects built, it is possible hazardous materials shipments would choose less congested routes than through the SCAG region, resulting in fewer hazardous

materials transported than under the Plan. However, without the transportation system improvements incorporated in the 2008 RTP, vehicle miles traveled and vehicle hours of delay would increase more by 2035 for the No Project Alternative than for the Plan Alternative. Thus, there would be more opportunities for accidents with vehicles transporting hazardous materials in the No Project Alternative than in the Plan Alternative. Also, with fewer new roadways constructed, hazardous materials transport would be concentrated on existing routes, and could not be diverted to dedicated lanes. In general, the No Project impacts could be greater than the Plan impacts.

Cumulatively, with the construction of fewer new lane miles and other transportation projects in the No Project Alternative compared to the Plan, more transportation demand would be transferred to surrounding counties, and therefore, more hazardous materials transportation would be facilitated in these counties. Thus, the cumulative impacts for the Plan Alternative would be greater than the No Project Alternative.

Land Use

The No Project contains fewer transportation investments than the Plan Alternative. Consequently, there would be fewer places where businesses and homes would be displaced and fewer places where communities would be disrupted. The GIS analysis of existing land use data shows that the freeway, transit, and freight rail projects in the No Project Alternative would occur within 150 feet of 5,740 acres of business land uses (commercial, industrial and extraction land uses) and 2,540 acres of residential land uses (rural, low, and medium to high density housing land uses). For the Plan Alternative 7,800 acres of business land uses and about 6,500 acres of residential land uses would be affected by transportation projects. The Plan impacts would be greater than the No Project impacts for Impact 3.8-1 and 3.8-2.

The No Project Alternative is expected to accommodate the same increase in total population as the proposed Plan, but more projects would be implemented under the 2008 RTP than the No Project. However, the Plan includes land use measures that would help reduce the displacement or disruption of existing communities. These mitigation measures are absent in the No Project Alternative. The compact growth strategies, with an emphasis on infill and redevelopment, under The Plan would potentially result in the displacement more homes and businesses than the spread out land use patterns under the No Project. The Plan impacts would be greater than the No Project.

Noise

The No Project Alternative impacts associated with noise would be less than those of the 2008 RTP. With fewer transportation projects being built under the No Project Alternative, there would be substantially less construction noise affecting sensitive receptors. Because fewer projects would be built, construction impacts due to grading, power tools, earth moving, groundborne vibrations, etc. for the No Project Alternative would be less than for the 2008 RTP.

Since the No Project Alternative includes fewer transportation system improvements, the impacts of noise related to operations would be less than under the 2008 RTP because of a decrease in speed, and fewer new transit noise sources.

While the construction noise is temporary and short term at the project level, the cumulative construction noise region wide could be significant. This ambient noise increase could be related to: aircraft overflights, port noise, ship horns, railroads, as well as freeway, arterial and transit noise. Through the construction of transportation projects, and increases in traffic volume and speed, the 2008 RTP projects would have greater noise impacts than the No Project.

Open Space

The No Project Alternative is expected to accommodate the same increase in total population as the proposed Plan Alternative. However, the Plan Alternative includes land use measures that would help reduce the consumption and disturbance of agricultural lands, vacant lands, open space, and recreation lands. These mitigation measures are absent in the No Project Alternative (although individual jurisdictions could adopt some of the Compass growth strategies independently of the RTP). Under the No Project Alternative, up to approximately 655,000 acres of vacant, open space and agricultural lands would be consumed, compared to 200,000 under the Plan.

The proposed Plan includes additional transportation improvements that facilitate access to agricultural lands, vacant lands, open space, and recreation lands that would be less accessible with the No Project Alternative. This improved accessibility under the Plan Alternative would help facilitate population and economic growth in areas of the region that are currently not developed. However, land use policies would seek to strictly limit development outside targeted areas. Without coordinated regional growth strategies, outlying areas could continue to be developed due to inexpensive land prices. These areas would likely include agricultural lands and open spaces or lands adjacent to agricultural lands and open spaces. The total vacant land consumed under the Plan would be less than under the No Project. The No Project impacts on open space would be greater than the 2008 Plan.

Population, Employment and Housing

The No Project contains fewer transportation investments than the Plan Alternative. Consequently, there would be fewer places where businesses and homes would be displaced and fewer places where communities would be disrupted. The GIS analysis of existing land use data shows that the freeway, transit, and freight rail projects in the No Project Alternative would occur within 150 feet of 5,740 acres of business land uses (commercial, industrial and extraction land uses) and 2,540 acres of residential land uses (rural, low, and medium to high density housing land uses). For the Plan Alternative 7,800 acres of business land uses and 6,500 acres of residential land uses would be affected by transportation projects. The Plan impacts would be greater than the No Project impacts for Impact 3.2-1, 3.2-2, and 3.2-3.

The No Project Alternative is expected to accommodate the same increase in total population as the proposed Plan. However, the Plan includes land use measures that would help reduce the

displacement, disruption or diversion of existing communities. These mitigation measures are absent in the No Project Alternative. The proposed Plan also includes additional transportation improvements that facilitate access to currently vacant lands that would be less accessible with the No Project Alternative. This improved accessibility under the Plan could help facilitate population and economic growth in areas of the region that are currently not developed. While the Plan could encourage growth in previously undeveloped areas, land use strategies would aggressively seek to reduce consumption of vacant, open space/recreation and agricultural lands. The No Project Alternative could consume about 655,000 acres of vacant, open space/recreation and agricultural lands, while the plan would consume about 200,000 acres. Although the Plan and the No Project Alternative would result in a different distribution of consumed land, they would result in the same total number of population, employment and households. Therefore, the No Project Alternative's cumulative impacts to population, households, and employment would be approximately the same as those of the 2008 RTP.

Public Services and Utilities

Under the No Project Alternative, the need for public facilities and solid waste services for transportation projects would be less than under the Plan Alternative because fewer projects would be built. The potential that building the projects would disrupt or sever underground utility lines also would be less in the No Project Alternative than in the Plan Alternative because there are fewer transportation projects.

Cumulatively, congestion due to a lack of additional transportation improvement projects and a dispersed population distribution would result in emergency vehicle response times that are worse in the No Project Alternative than under the Plan Alternative.

The cumulative need for additional emergency personnel, schools, and solid waste services to accommodate the population would be the same in the No Project Alternative as in the Plan Alternative.

Security and Emergency Preparedness

Implementation of the 2008 RTP would affect the security and emergency preparedness in the region due to the vast expanse of transportation infrastructure. The security and emergency preparedness goals outlined in the Plan Alternative aim to assist the region in the planning, preparation and response to emergencies, whether caused by natural or human elements.

The No Project Alternative would result in slightly more than or equal risk for wildfire and/or mudslide destruction, compared to the Plan Alternative. The Plan includes land use measures that would discourage development in areas where wildfire potential is high, such as on the urban fringes. This reduction could reduce the risk to life and property during wildland fires and mudslides in fire ravaged areas. The No Project Alternative would have a greater cumulative effect than the Plan Alternative in inducing growth in areas with high threats of wild fires.

Under the Plan, the RTP forecasts expenditures of $10 billion for safety related projects and services. This is in addition to safety standards considered as part of every project design. As a result, implementation of the Plan is anticipated to minimize the threat and impact to lives, property, the transportation network and the regional economy. Therefore the No Project would result in greater impacts than the Plan.

Transportation

The No Project Alternative would result in greater than or equal impacts to transportation facilities, compared to the 2008 RTP. The No Project Alternative would generally be expected to result in more miles traveled and more delay. The No Project Alternative would result in 563 million daily VMT, more than the 2008 RTP's 552 million daily VMT. Daily hours of delay in the No Project Alternative would be 8.1 million person-hours of delay for all vehicles and 0.593 million vehicle-hours of delay for heavy-duty trucks. Comparatively, the 2008 RTP would result in 6.6 million person-hours of delay for all vehicles and 0.467 million vehicle-hours of delay for heavy-duty trucks. The differences between No Project Alternative and 2008 RTP impacts to transportation are detailed in **Tables 3.14-11 and 3.14-14**.

The No Project Alternative would result in fewer work opportunities within 45 minutes travel time than the Plan. Specifically, 76.2 percent of work trips could be made within 45 minutes by auto and 40.1 percent by transit with the No Project Alternative, compared with 80 percent within 45 minutes by auto and 44 percent by transit with implementation of the 2008 RTP.

The effects of growth and other external factors are included in the Regional Travel Demand Model that produces the results reported above. Because these external factors are modeled, the cumulative effects of regional growth are captured in the VMT, VHT, and heavy-duty truck VHT data reported for the No Project. The No Project would have greater cumulative adverse transportation impacts than the 2008 RTP.

Water Resources

With fewer transportation projects than the 2008 RTP, the direct effects of the No Project Alternative on water resources would be less than under the 2008 RTP. However, as the currently planned projects included in the No Project Alternative are built (which would occur regardless of adoption of the 2008 RTP), the impacts due to increased road runoff and drainage patterns would remain significant.

The No Project includes the construction of fewer lane miles, and would result in fewer acres of impervious surface added to the region (Impacts 3.15-2 and 3.15-3). These impacts would be less than those caused by implementation of the 2008 RTP.

Cumulatively, both the Plan and the No Project would potentially impact water quality, groundwater recharge, flood hazards, wastewater treatment capacity, and water supply. In the No Project Alternative, new development would occur to accommodate the same increase in population as projected for the proposed Plan. However, the Plan contains land use strategies to reduce the amount of land consumed by that growth. These strategies are absent in the No

Project alternative, although municipalities may still independently pursue them in their general plans.

Due to the greater amount of projected urbanization, the cumulative impacts associated with urban development to water quality, groundwater recharge, and flood hazards would be greater in the No Project alternative.

The cumulative impacts on wastewater service capacity, due to the growth expected between the base year and 2035, would be approximately the same in the No Project Alternative and the Plan. The total population in each county is relatively constant between the No Project Alternative and the Plan, such that Imperial, Los Angeles, Riverside and San Bernardino Counties would be at or above the existing capacity for wastewater treatment. Though it is expected that services would be added as they are needed, for the purpose of determining significance of the impact, the future wastewater flow must be compared to the existing treatment capacity, and the impact of the No Project Alternative is significant and of similar magnitude to the Plan.

The *existing* water supply and infrastructure would not be able to support the population in the No Project Alternative in 2035. The region's water agencies are continually responding to new information on population growth and challenges to future supply, but the *existing* supply still falls short of future demand. The impact would remain significant and similar in magnitude to the Plan Alternative.

Modified 2004 RTP Alternative

The Modified 2004 RTP Alternative is an update of the adopted 2004 RTP, reflecting the most recent growth estimates and transportation planning decisions. The transportation investments for this alternative include all of the projects in the 2004 RTP. Generally, transportation investments included in the Modified 2004 RTP are similar to those in the 2008 RTP. This alternative also includes a modification of the 2004 RTP in that it updates the growth projection, and it extends the planning horizon from 2030 to 2035. As an Alternative to the 2008 RTP, the Modified 2004 RTP Alternative does not include most of the land use-transportation strategies utilized in the 2008 RTP. The Modified 2004 RTP Alternative includes the same number of people, households, and jobs as the Plan, though these are distributed differently due to the absence of land use-transportation strategies.

Aesthetics and Views

The direct impacts of the Modified 2004 RTP Alternative on aesthetics and views would be the same as those of the Plan Alternative because the transportation projects included in both Alternatives are generally the same. The Modified 2004 RTP would have similar impacts on obstructing scenic resources, creating contrasting land uses, and adding visual elements to existing natural, rural, and open space areas. The Modified 2004 RTP Alternative would have similar impacts on state scenic highways and vista points. New development to accommodate the additional population would be greater cumulatively in the Modified 2004 RTP Alternative than in

the Plan Alternative because the Modified 2004 RTP Alternative does not have the growth strategies that conserve vacant land. This development would create greater contrasts with the overall visual character of the existing landscape setting in the Modified 2004 RTP Alternative than in the Plan Alternative.

Air Quality

The Modified 2004 RTP Alternative would result in an increase in criteria pollutants compared to the 2008 RTP. As show in **Table 4.2**, when compared to the 2008 Plan, the Modified 2004 RTP Alternative would result in increased emissions of NOx, and CO for Los Angeles, Riverside, and San Bernardino counties. Under the Modified 2004 RTP, NOx would be increased by 20 percent compared to the Plan in Ventura County. Nonetheless, compared to existing pollutants, emissions would still be less under the 2004 RTP Alternative than existing except for PM10 and PM2.5. Because of the increase in PM10 and PM2.5 impacts would be significant, and slightly greater than the Plan.

Projected long-term emissions are considered to be cumulatively significant if they are not consistent with the local air quality management plans and state implementation plans. As previously indicated, regional emissions under the Modified 2004 RTP Alternative would be slightly greater than those under the 2008 RTP. The 2008 RTP conforms with the local air quality management Plans and cumulative impacts are less than significant. It is not clear if the 2004 RTP Modified emissions would conform to the local air quality management plans; as with the Plan the increase in emissions would be considered significant.

As shown in **Table 4.3,** the 2004 RTP Alternative would result in an increase in Greenhouse Gases of 25.13 tonnes per year in 2020 and 57.12 tonnes per year in 2035, compared to increases of 24.31 tonnes per year in 2020 and 51.41 tonnes per year in 2035 for the Plan. The 2004 RTP Alternative would have 3 percent greater Greenhouse Gas emissions in 2020 and 11 percent greater emissions in 2035 compared to the Plan. Therefore, the Modified 2004 RTP Alternative would have a significant impact related to greenhouse gas emissions.

TABLE 4.2

CRITERIA POLLUTANT EMISSIONS BY COUNTY – 2035 MODIFIED 2004 RTP VS 2035 PLAN (IN TONS PER DAY)

County		ROG Summer	ROG Annual	NOx Summer	NOx Annual	NOx Winter	CO Winter	PM10 Annual	PM2.5 Annual	SOx Annual
Los Angeles	*2004 Modified*	40	40	60	60	64	313	72	11	1
	Plan	40	40	59	60	63	310	71	111	1
	Difference	0	0	1	0	1	3	1	0	0
	% Difference	0%	0%	**2%**	0%	**2%**	**1%**	**1%**	0%	0%
Imperial	*2004 Modified*	4	3	8	8	8	27			0
	Plan	4	3	8	8	8	28			0
	Difference	0	0	0	0	0	-1			0
	% Difference	0%	0%	0%	0%	0%	**-4%**			0%
Orange	*2004 Modified*	15	15	18	18	20	112	26	4	0
	Plan	15	15	18	18	19	107	26	4	0
	Difference	0	0	0	0	-1	-5	0	0	0
	% Difference	0%	0%	0%	0%	**5%**	**5%**	0%	0%	0%
Riverside	*2004 Modified*	11	10	18	18	18	79	24	4	0
	Plan	11	10	17	17	18	77	24	4	0
	Difference	0	0	1	1	0	2	0	0	0
	% Difference	0%	0%	**6%**	**6%**	0%	**3%**	0%	0%	0%
San Bernardino (SCAB and MDAB Portion)	*2004 Modified*	10	9	20	20	20	72	15	2	0
	Plan	10	9	19	19	19	69	14	2	0
	Difference	0	0	1	1	0	3	1	0	0
	% Difference	**0%**	0%	**5%**	**5%**	**5%**	**4%**	**7%**	0%	0%
Ventura	*2004 Modified*	4	4	5	5	6	30			0
	Plan	4	4	5	5	5	30			0
	Difference	0	0	0	0	1	0			0
	% Difference	0%	0%	0%	0%	**20%**	0%			0%

Note: SCAB portions only of Los Angeles, Riverside, and San Bernardino

Biological Resources

The transportation investments for the Modified 2004 RTP Alternative are similar to those in the 2008 RTP. Therefore, the direct impacts to natural vegetation, sensitive species and communities, habitat connectivity, near-road human disturbances, disturbances associated with construction-generated smoke, light and noise; potential displacement of riparian and wetland areas, and siltation of water bodies would similar to the 2008 RTP.

Construction impacts related to trampling of vegetation would be also be similar to those in the 2008 RTP. Neither the Modified 2004 RTP Alternative nor the 2008 RTP would conflict with provisions of adopted Habitat Conservation Plans or Natural Communities Conservation Plans.

New development to accommodate the additional population would be greater cumulatively in the Modified 2004 RTP Alternative than in the Plan Alternative because the Modified 2004 RTP Alternative does not have the growth strategies that conserve vacant land. The Modified 2004 RTP Alternative would be expected to consume more land when compared to the 2008 RTP, and therefore would cumulatively affect more biological resources.

Cultural Resources

As mentioned above, the transportation investments for the Modified 2004 RTP Alternative are would be similar to those included in the 2008 RTP. Therefore, the direct impacts to cultural and paleontological resources and human remains would be similar to the impacts of the 2008 RTP.

The Modified 2004 RTP Alternative's cumulative impacts due to urban development patterns would be expected to be greater than those of the 2008 RTP. The Modified 2004 RTP Alternative would accommodate similar population, households, and employment as the 2008 RTP, but without implementation of policies that create a more compact urban form. Thus, the urban development patterns associated with the Modified 2004 RTP Alternative would be expected to cumulatively disturb more previously undisturbed areas when compared to the 2008 RTP.

Energy

The Modified 2004 includes all of the projects from the 2004 RTP, which are generally similar to those in the 2008 RTP. As a result, Impact 3.5-1, which relates to the use of non-renewable energy resources in construction and expansion of the regional transportation system, would be similar for the Modified 2004 RTP Alternative as for the 2008 RTP, since the transportation system investments in the two Alternatives similar.

Transportation energy usage (Impact 3.5-2) is projected to be slightly higher under the Modified 2004 RTP Alternative compared with the 2008 RTP. Specifically, the Modified 2004 RTP Alternative would consume approximately 33,750 thousand gallons of transportation fuel per day and the 2008 RTP Alternative would consume approximately 32,940 thousand gallons per day. Both electricity and natural gas consumption are projected to be generally similar for the Modified 2004 RTP Alternative and the 2008 RTP.

TABLE 4.3
2004 MODIFIED RTP ALTERNATIVE GREENHOUSE GAS EMISSIONS [1]

Area and Source	Carbon Equivalent (Million Metric Tonnes per Year) [2]				
	Existing (2008)	Future No Project (2020)	2004 RTP Alternative (2020)	Future No Project (2035)	2004 RTP Alternative (2035)
Imperial County					
Construction	0.04	0.04	0.03	0.04	0.03
Mobile	1.36	1.90	1.86	2.45	4.35
Electricity	0.59	0.93	0.87	1.17	1.04
Natural Gas	0.37	0.59	0.55	0.74	0.65
Total	2.36	3.46	3.31	4.40	6.07
Los Angeles County					
Construction	0.66	0.65	0.62	0.66	0.63
Mobile	42.28	46.05	45.68	51.19	50.82
Electricity	25.88	27.79	27.80	29.73	29.70
Natural Gas	24.38	26.25	26.25	28.11	28.07
Total	93.20	100.74	10035	109.69	109.22
Orange County					
Construction	0.10	0.10	0.13	0.10	0.14
Mobile	13.20	14.50	14.61	15.80	16.55
Electricity	7.72	8.50	8.55	8.84	9.31
Natural Gas	8.65	9.55	9.60	9.93	10.47
Total	29.67	32.65	32.89	34.67	36.47
Riverside County					
Construction	0.46	0.46	0.45	0.46	0.45
Mobile	10.49	13.38	13.43	18.10	17.08
Electricity	5.15	7.17	7.07	9.54	9.05
Natural Gas	4.31	6.02	5.93	8.03	7.60
Total	20.41	27.03	26.88	36.13	34.18
San Bernardino County					
Construction	0.33	0.33	0.32	0.33	0.33
Mobile	13.13	16.85	16.63	22.68	21.65
Electricity	5.84	7.40	7.51	9.44	9.44
Natural Gas	4.29	5.44	5.52	6.94	6.93
Total	23.59	30.02	29.98	39.39	38.35
Ventura County					
Construction	0.09	0.09	0.10	0.05	0.06
Mobile	3.37	3.75	3.73	4.26	4.34
Electricity	2.13	2.44	2.43	2.69	2.71
Natural Gas	1.97	2.26	2.25	2.49	2.51
Total	7.56	8.54	8.51	9.49	9.62
Total Emissions	176.79	202.44	201.92	233.77	233.91
2004 RTP Alternative Compared to No Project (2020 and 2035)		(52)		0.14	
2004 RTP Alternative Compared to Existing		25.13		57.12	

NOTES:
1. The table does not include all sources of GHG emissions (e.g., industrial processes, agriculture, etc.).
2. Please refer to Appendix B for a complete description of the methodology used to obtain GHG emissions.

Although the greenhouse gas emissions would be slightly lower under the 2004 Modified RTP than the 2008 RTP, the 2004 RTP Alternative would be less likely to fully address California's Climate Change Action Plan due to the lack of an integrated land use and transportation system (Impact 3.5-3). Furthermore, transportation fuel use, the main contributor to greenhouse gas emissions in California and the SCAG region, is expected to be higher under the Modified 2004 RTP Alternative when compared to the 2008 RTP Alternative. Therefore, the Plan impacts would be less when compared to the Modified 2004 RTP Alternative.

Cumulative Impact 3.5-4 is a significant impact relating to the overall growth in the use of non-renewable energy resources for the SCAG region. The analysis of electricity and natural gas consumption indicates that the Modified 2004 RTP Alternative would consume about the same amount of energy versus the Plan Alternative, still resulting in an overall increase in regional energy consumption under the Modified 2004 RTP Alternative and a cumulatively considerable impact. Furthermore, as mentioned above, transportation energy consumption under the Modified 2004 RTP Alternative would be slightly higher when compared to the Plan Alternative. In addition, although the analysis of electricity and natural gas consumption indicates that the 2004 RTP Alternative would consume slightly less energy versus the Plan Alternative, the overall increase in regional energy consumption under the Modified 2004 RTP Alternative would still be cumulatively considerable. Therefore, due to lower transportation energy consumption, the Plan impacts would be less than the Modified 2004 Alternative.

Geology, Soils, and Seismicity

With generally similar transportation investments as the Plan Alternative, the Modified 2004 RTP Alternative has a similar risk of damage to transportation infrastructure through surface rupture, ground shaking, liquefaction, and landsliding due to seismic events. Similar amounts of roadwork for the transportation projects under the two alternatives would have a similar risk of increasing long-term erosion potential and slope failure. Local geology would pose the same risk of potentially significant impacts to property and public safety. The Modified 2004 RTP Alternative would accommodate the same total population, households, and employment as the 2008 RTP, but without implementation of policies that create a more compact urban form. However, under both alternatives, the same number of people would be exposed to risk from potential geological upset. As a result, the cumulative impacts on geological resources of the Modified 2004 RTP Alternative are expected to be similar to those of the Plan.

Hazardous Materials

Impact 3.7-1, and 3.7-2 which relate to the routine transport, use, or disposal of hazardous materials**,** and the risk of upset, would be similar under the Modified 2004 RTP compared to the Plan.

The Modified 2004 RTP Alternative includes generally similar transportation investments as the 2008 RTP, but does not have the growth strategies to reduce VMT and focus growth in urbanized areas. However, because the transportation network would be similar under both Alternatives, it is expected that Impact 3.7-3, which relates to the risk of release of hazardous materials within

one-quarter mile of a school, would be the similar for the Modified 2004 RTP Alternative as for the 2008 RTP.

Both Alternatives include generally the same transportation investments and would result in similar amounts of construction. However, the Plan includes growth strategies that emphasize compact development and reuse in urban areas, where there brownfields and other contaminated sites are more likely to occur. Therefore, Impact 3.7-4, which relates to the risk of disturbing contaminated sites during construction, would be lesser for the Modified 2004 RTP Alternative than the Plan.

Cumulative Impact 3.7-5, which relates to hazardous materials transportation impacts on neighboring counties, would be greater for the 2004 RTP Alternative than for the 2008 RTP, as mobility could decrease slightly relative to the Plan, leading to greater pressure on the transportation systems of other counties.

Cumulative Impact 3.7-6, which relates to the risk of disturbing contaminated sites during construction related to the region's growth as a whole, would be expected to be reduced under the Modified 2004 RTP Alternative since growth policies would not be included that would emphasize infill and redevelopment versus use of new land.

Land Use

Since the Modified 2004 RTP Alternative has a transportation network that is largely similar to the Plan Alternative, its direct impact on land use would be similar to the Plan Alternative. The Modified 2004 RTP Alternative does not have the same growth strategies to distribute the future population as the Plan Alternative and as a result would increase urbanized acres in the region by approximately 316,000 acres, an increase of 61,000 acres over the Plan. The Modified 2004 RTP Alternative has less of an emphasis on focusing development in existing and emerging centers, along transportation corridors, promoting transit-oriented and mixed uses development and improving regional jobs-housing balance. As a result it would be expected to create fewer inconsistencies with general plans than the Plan Alternative.

Cumulative impacts of new development to accommodate the population in the region would be greater in the Modified 2004 RTP Alternative than in the Plan Alternative, as the Modified 2004 RTP Alternative does not have the growth strategies that conserve vacant land.

Noise

The transportation improvements in the Modified 2004 RTP are similar to those in the 2008 RTP. Construction noise related to grading, power tools, earth moving, groundborne vibrations, etc. would therefore be generally the same as for the 2008 RTP. The Plan and the 2004 Modified RTP would have similar construction related impacts.

The impact of noise on areas directly located next to transportation facilities would be similar for the Modified 2004 RTP and the 2008 RTP. The projects included in both alternatives would be similar resulting in similar impacts occurring within 150 feet of transportation facilities, both would also likely result in a comparable number of sensitive receptors that would be impacted.

Cumulative noise impacts for the Modified 2004 RTP would also be similar to those from implementation of the 2008 RTP. Construction, ambient, aviation and port noise would be the same between the two alternatives. The Plan would have similar noise impacts to the 2004 Modified RTP Alternative.

Open Space

Since the Modified 2004 RTP Alternative has a transportation network that is largely similar to the Plan Alternative, its direct impacts on open space and agricultural lands would be expected to be similar to the Plan Alternative. However, the Modified 2004 RTP Alternative does not have the same growth strategies to distribute the future population as the Plan Alternative and as a result would increase urbanized acres in the region by approximately 316,000 acres, an increase of 61,000 acres over the Plan. The 2004 Modified RTP Alternative would consume 20,215 acres of open space and 45,405 acres of agricultural lands compared to 11,104 acres of open space and 47,000 of agriculture under the Plan. Although the Plan would consume fewer acres overall and fewer acres of open space specifically, it would result in a slightly greater loss of agricultural lands than the 2004 Modified RTP. Overall, the impacts to open space would be reduced under the Plan.

Cumulative impacts of new development to accommodate the population in the region would be greater in the Modified 2004 RTP Alternative than in the Plan Alternative, as the Modified 2004 RTP Alternative has less of an emphasis on focusing development in existing and emerging centers, along transportation corridors, promoting transit-oriented and mixed uses development and improving regional jobs-housing balance. As discussed above, the 2004 Modified RTP would have greater impacts than the Plan.

Population, Employment and Housing

The Modified 2004 RTP Alternative has the same population, household, and employment growth to the Plan Alternative. The impact of the induced growth from the Modified 2004 RTP Alternative would be similar to the Plan Alternative, although there would be slight differences in the countywide distributions. For example, the 2004 Modified RTP would result in an increase in population, jobs and households in Orange County. Although, because the population households and employment would be the same at the regional level, the Plan impacts would be the same as those associated with the 2004 Modified RTP.

Since the Modified 2004 RTP Alternative contains similar transportation investments as the Plan Alternative, it would have approximately the same impact as the Plan Alternative in terms of displacing businesses and homes and disrupting and dividing communities.

Both the Plan and the 2004 Modified Alternative would result in the same increase in population. However, cumulative impacts of new development to accommodate the additional population would be greater in the Modified 2004 RTP Alternative than in the Plan Alternative because the Modified 2004 RTP Alternative does not have the growth strategies that conserve vacant land.

Public Services and Utilities

Public services impacts are generally related to increased population. The Modified 2004 RTP includes the same increase in population as the Plan, and therefore, the need for public facilities and solid waste services would be similar to the Plan Alternative. The potential to sever underground utility lines would also be similar, as both alternatives contemplate similar transportation networks. .

The population distribution of the Modified 2004 RTP Alternative would not be as compact as the Plan Alternative due to the absence of land use-transportation strategies. The cumulative impact of the congestion that results because of the population distribution would result in emergency vehicle response times that are worse than the Plan Alternative.

The cumulative impact of new development to accommodate the additional population would generate approximately the same need for additional emergency personnel, schools, and solid waste services and would result in approximately the same chance of severing underground utility lines for the Modified 2004 RTP Alternative as for the Plan Alternative.

Security and Emergency Preparedness

The Modified 2004 RTP Alternative would result in slightly more than or equal risk for wildfire and/or mudslide destruction, compared to the Plan Alternative. The Modified 2004 RTP Alternative is projected to result in approximately 61,000 additional urbanized acres compared to the Plan Alternative. The Modified 2004 RTP Alternative thus would have a greater cumulative effect than the Plan Alternative in inducing growth in areas with high threats of wild fires.

Under all the alternatives, policies and procedures at the local, State and federal level are in place regarding emergency procedures. These should not be impacted by any of the transportation plan alternatives.

Transportation

The Modified 2004 RTP Alternative would result in similar impacts to transportation resources, compared to the 2008 RTP. The 2004 RTP includes a very similar project list to the 2008 RTP, with a few variations such as the High Desert Corridor, which is not in the 2004 RTP. Impacts on the transportation system would be similar to the 2008 RTP.

Water Resources

The transportation investments for the Modified 2004 RTP Alternative are generally similar to those in the 2008 RTP. Both would result in the construction of a similar number of projects, resulting in roughly equivalent changes to road runoff and drainage patterns. Impacts 3.15-2 and 3.15-3 would also be expected to be the same as the Plan.

The Modified 2004 RTP Alternative's cumulative impacts to water quality, groundwater recharge and flood hazards due to urban development patterns would be expected to be greater than those of the 2008 RTP. The alternative would accommodate similar population, households, and employment to the 2008 RTP, but as noted above, the growth distribution associated with the Modified 2004 RTP Alternative would be expected to consume more land and would not focus growth in urbanized areas compared to the Plan.

The cumulative impacts on wastewater service capacity, due to the growth expected between the base year and 2035, would be approximately the same in the Modified 2004 RTP Alternative and the Plan. The total population in each county is relatively constant between the Modified 2004 RTP Alternative and the Plan, such that Imperial, Los Angeles, Riverside and San Bernardino counties would be at or above the existing capacity for wastewater treatment. Though it is expected that services would be added as they are needed, the Modified 2004 RTP Alternative would result in similar impacts to Plan.

The *existing* water supply and infrastructure would not be able to support the population in the Modified 2004 RTP Alternative in 2035. Implementation of the mitigation measures associated with Impact 3.15-8 may provide future supply, but the *existing* supply still falls short of future demand. This would be similar to the Plan impacts.

Envision Alternative

The development of the 2008 RTP proceeded via an integrated process including incorporation of regional growth visioning concepts contained within the Compass Blueprint. Full implementation of Compass concepts as well as additional sustainability planning resulted in an alternative to the 2008 RTP that is referred to herein as Envision.

The Envision Alternative includes transportation and land use strategies that encourage a substantial portion of future growth to concentrate in existing urban centers through infill and redevelopment. This alternative was designed to increase efficiency of the transit system, reduce vehicle trips and VMT, and reduce consumption of open space and habitat compared to the RTP. The Envision Alternative includes the same transportation network as the Plan, but has significantly more infill development and more aggressive growth strategies resulting in less consumption of vacant land compared to the Plan.

Aesthetics and Views

The Envision Alternative would have less effect on aesthetics and views than the Plan Alternative. Envision focuses development in urban areas, and reduces regional sprawl. However, the Envision Alternative includes the same projects as the Plan alternative and therefore would include similar impacts from transportation projects. Envision would have the same impact as the Plan Alternative on State Scenic Highways and vista points.

For cumulative impacts, Envision would have more emphasis on infill development than the Plan Alternative. The more compact development would create fewer contrasts with the overall visual character of the existing landscape setting.

Air Quality

Region-wide criteria pollutant emissions under the Envision Alternative would be less than the criteria pollutant emissions under the 2008 RTP.

Table 4.4 compares emissions under the Envision Alternative with Plan emissions. When compared to the current condition emissions, the Envision Alternative would result in similar, but slightly reduced emissions compared to the Plan.

As with the Plan, PM_{10} emissions from heavy-duty trucks would be expected to decrease from 2008 levels for each county. As a result of the anticipated decline in TAC emissions, as with the Plan the Envision Alternative would have a less than significant impact with respect to regional TAC emissions.

As with the Plan, the Envision Alternative would be expected to generate a significant amount of construction activity and therefore exceed the significance thresholds established in the CEQA Guidelines. This would create a significant short-term impact. Other construction impacts include potential construction-related traffic impacts due to congestion from lane closures. These impacts should be addressed at the project level analysis.

Projected long-term emissions are considered to be cumulatively significant if they are not consistent with the local air quality management plans and state implementation plans. As previously indicated, regional emissions under Envision would be similar to, and slightly less than the 2008 RTP. The 2008 RTP conforms with the local air quality management Plans and cumulative impacts are less than significant. Therefore, Envision emissions would also conform to the local air quality management plans and have a less than significant cumulative impact with respect to consistency with applicable plans. As with the Plan, the increase in emissions would still be significant.

As shown in **Table 4.5**, the Envision Alternative would result in a net increase in Greenhouse Gases of 23.16 tonnes per year in 2020 and 50 tonnes per year in 2035, compared to increases of 24.31 tonnes per year in 2020 and 51.41 tonnes per year in 2035. The Envision Alternative

would have nearly 5 percent fewer Greenhouse Gas emissions in 2020 and nearly 3 percent fewer emissions in 2035 compared to the Plan Alternative. Nonetheless, given the increase in greenhouse gas emissions in 2020 and 2035, the Envision Alternative would result in a significant impact.

Biological Resources

Because the transportation network is the same for both alternatives, the Envision Alternative's direct impacts to biological resources would be the same as those of the 2008 RTP. The impacts to natural vegetation, sensitive species and communities, habitat connectivity, near-road human disturbances, disturbances associated with construction generated smoke, light and noise; potential displacement of riparian and wetland areas, and siltation of water bodies would and construction impacts would also be the same.

The Envision Alternative's cumulative impacts to biological resources due to urban development patterns would be expected to be less than those of the 2008 RTP. The Envision Alternative would accommodate similar growth in population, but this alternative includes transportation and land use strategies that encourage a substantial portion of future growth to concentrate in existing urban centers through infill and redevelopment, more so than the 2008 RTP. These measures would discourage population and employment centers from growing in the outlying areas of the region where consumption of open land (and potentially biological resources) would occur. The Envision Alternative cumulative impacts would be less than the Plan.

Cultural Resources

Both the Envision Alternative and the Plan have the same transportation network, therefore, direct impacts to cultural resources would be similar to those of the 2008 RTP. The impacts to historical, archaeological, and paleontological resources and human remains from the transportation network would also be similar.

However, the Envision Alternative's cumulative impacts due to urban development patterns would be expected to be less than those of the 2008 RTP. This alternative would accommodate similar population, households, and employment to the 2008 RTP, but includes transportation and land use strategies that encourage a substantial portion of future growth to concentrate in existing urban centers through infill and redevelopment, more so than the 2008 RTP. These measures would discourage population and employment centers from growing in the outlying areas of the region where consumption of open vacant land would occur. The Envision Alternative would be consume fewer vacant acres overall and therefore have a lower potential for disturbing previously undiscovered cultural resources than the 2008 RTP. The Envision alternative's cumulative impacts would be lesser than the Plan.

TABLE 4.4

CRITERIA POLLUTANT EMISSIONS BY COUNTY – ENVISION VS 2035 PLAN (IN TONS PER DAY)

County		ROG Summer	ROG Annual	NOx Summer	NOx Annual	NOx Winter	CO Winter	PM10 Annual	PM2.5 Annual	SOx Annual
Los Angeles	*Envision*	40	40	59	60	63	308	71	11	1
	Plan	40	40	59	60	63	310	71	11	1
	Difference	0	0	0	0	0	-2	0	0	0
	% Difference	0%	0%	0%	0%	0%	**-1%**	0%	0%	0%
Imperial	*Envision*	4	3	8	8	8	27			0
	Plan	4	3	8	8	8	28			0
	Difference	0	0	0	0	0	-1			0
	% Difference	0%	0%	0%	0%	0%	**-4%**			0%
Orange	*Envision*	15	15	18	18	19	107	26	4	0
	Plan	15	15	18	18	19	107	26	4	0
	Difference	0	0	0	0	0	0	0	0	0
	% Difference	0%	0%	0%	0%	0%	0%	0%	0%	0%
Riverside	*Envision*	11	10	17	17	18	76	23	4	0
	Plan	11	10	17	17	18	77	24	4	0
	Difference	0	0	0	0	0	-1	-1	0	0
	% Difference	0%	0%	0%	0%	0%	**-1%**	**-4%**	0%	0%
San Bernardino (SCAB and MDAB Portion)	*Envision*	10	9	18	19	19	68	14	2	0
	Plan	10	9	19	19	19	69	14	2	0
	Difference	0	0	-1	0	0	-1	0	0	0
	% Difference	0%	0%	**-5%**	0%	0%	**-1%**	0	0	0
Ventura	*Envision*	4	4	5	5	5	30			0
	Plan	4	4	5	5	5	30			0
	Difference	0	0	0	0	0	0			0
	% Difference	0%	0%	0%	0%	0%	0%			0%

TABLE 4.5
ENVISION ALTERNATIVE GREENHOUSE GAS EMISSIONS [1]

Area and Source	Carbon Equivalent (Million Metric Tonnes per Year) [2]				
	Existing (2008)	Future No Project (2020)	Envision Alternative (2020)	Future No Project (2035)	Envision Alternative (2035)
Imperial County					
Construction	0.04	0.04	0.04	0.04	0.04
Mobile	1.36	1.90	1.84	2.45	2.33
Electricity	0.59	0.93	0.91	1.17	1.16
Natural Gas	0.37	0.59	0.57	0.74	0.73
Total	2.36	3.46	3.36	4.40	4.26
Los Angeles County					
Construction	0.66	0.65	0.73	0.66	0.73
Mobile	42.28	46.05	44.87	51.19	49.00
Electricity	25.88	27.79	27.99	29.73	30.12
Natural Gas	24.38	26.25	26.39	28.11	28.50
Total	93.20	100.74	99.98	109.69	108.35
Orange County					
Construction	0.10	0.10	0.13	0.10	0.13
Mobile	13.20	14.50	14.20	15.80	15.59
Electricity	7.72	8.50	8.46	8.84	9.01
Natural Gas	8.65	9.55	9.50	9.93	10.11
Total	29.67	32.65	32.29	34.67	34.84
Riverside County					
Construction	0.46	0.46	0.40	0.46	0.40
Mobile	10.49	13.38	13.05	18.10	16.27
Electricity	5.15	7.17	7.09	9.54	9.14
Natural Gas	4.31	6.02	5.96	8.03	7.70
Total	20.41	27.03	26.50	36.13	33.51
San Bernardino County					
Construction	0.33	0.33	0.27	0.33	0.28
Mobile	13.13	16.85	16.26	22.68	20.32
Electricity	5.84	7.40	7.40	9.44	9.08
Natural Gas	4.29	5.44	5.44	6.94	6.67
Total	23.59	30.02	29.37	39.39	36.35
Ventura County					
Construction	0.09	0.09	0.10	0.05	0.06
Mobile	3.37	3.75	3.67	4.26	4.19
Electricity	2.13	2.44	2.43	2.69	2.73
Natural Gas	1.97	2.26	2.25	2.49	2.53
Total	7.56	8.54	8.45	9.49	9.51
Total Emissions	176.79	202.44	199.95	233.77	226.82
Envision Alternative Compared to No Project (2020 and 2035)		(2.49)		(6.95)	
Envision Alternative Compared to Existing		23.16		50.03	

NOTES:
1. The table does not include all sources of GHG emissions (e.g., industrial processes, agriculture, etc.).
2. Please refer to **Appendix B** for a complete description of the methodology used to obtain GHG emissions.

Energy

Impact 3.5-1, which relates to the use of non-renewable energy resources in construction and expansion of the regional transportation system, would be similar under the Envision Alternative than for the 2008 RTP, since both the Plan and the Envision alternative include the same transportation investments.

Impact 3.5-2 relates to the use of non-renewable energy resources in the operation of the regional transportation system. Transportation energy usage would be lower under the Envision Alternative compared with the 2008 RTP Alternative due to the further incorporation of regional growth visioning concepts contained within Southern California Compass as well as sustainability planning. Specifically, the Envision Alternative would consume approximately 32,690 thousand gallons of transportation fuel per day and the Plan Alternative would consume approximately 32,940 thousand gallons per day. In addition, the Envision Alternative would consume slightly less electricity and natural gas than the Plan Alternative. However, the magnitude of this impact under the Envision Alternative would be similarly significant even after mitigation.

Impact 3.5-3 relates to the greenhouse gas reduction levels identified in AB 32 (1990 levels by 2020) and the California Climate Action Team Report. Transportation fuel use, the main contributor to greenhouse gas emissions in California, is expected to be lower under the Envision Alternative when compared to the 2008 RTP due to transportation and land use strategies that encourage a substantial portion of future growth to concentrate in existing urban centers through infill and redevelopment. Nonetheless, the Envision Alternative would not alone meet the greenhouse gas reduction requirements set forth in AB 32. Therefore, the Envision Alternative would still not meet the greenhouse gas emission levels required in AB 32, or fully address the strategies identified in the California Climate Action Team Report, resulting in a significant impact with mitigation, similar to the Plan Alternative.

Cumulative Impact 3.5-4 is a significant impact relating to the overall growth in the use of non-renewable energy resources for the SCAG region. As mentioned above, transportation energy consumption under the Envision Alternative would be lower compared to the Plan Alternative. Further, the analysis of residential energy consumption indicates that the Envision Alternative would consume slightly less energy due to a distribution that includes more infill development and slightly more reliance on energy-efficient multi-family dwellings in inland areas versus the Plan Alternative. Overall, the magnitude of this impact under the Envision Alternative would be less than for the 2008 RTP Alternative, but it would still be cumulatively considerable and therefore significant.

Geology, Soils, and Seismicity

The Envision Alternative's direct impacts to geological resources would be similar to those of the 2008 RTP and remain significant because the transportation network is the same for both plans. However, the Envision Alternative has a considerably lower acreage of impacted land and was designed to reduce consumption of open space and habitat. As a consequence of "smart growth"

measures, and because the Alternative concentrates development in areas of existing areas geologically unstable areas would be avoided. As a result, fewer people and structures would be exposed to risks of injury from geological hazards. Although under both the Envison Alternative and the Plan, the same total number of people would be exposed to geologic hazards. The Envision Alternative would also consume less land and, therefore, cumulatively considerable impacts on geological resources would be reduced compared to the 2008 RTP.

Hazardous Materials

The Envision Alternative seeks transportation and land use strategies that encourage infill and redevelopment, therefore, transportation of hazardous materials would also be slightly less, with fewer risks, than for the Plan Alternative. Thus Impact 3.7-1**,** which involves the routine transport, use, or disposal of hazardous materials and Impact 3.7-2 which relates to the risk of upset of hazardous materials, would be slightly less under Envision than under the Plan, though it would still be significant.

Impact 3.7-3 relates to the risk of release of hazardous materials within one-quarter mile of a school. Because the Envision Alternative would have the same transportation investments, with possible denser development, this impact would be similar to the Plan.

Both the Envision Alternative and the 2008 RTP include the same transportation projects, however, the Envision alternative includes growth strategies that focus development in urban areas, which are more likely to include contaminated sites. As a result, Impact 3.7-4, which relates to the risk of disturbing contaminated sites during construction, would be greater for the Envision Alternative than for the 2008 RTP. This impact would still be less-than-significant with mitigation.

Cumulative Impact 3.7-5, which relates to hazardous materials transportation impacts on neighboring counties, would be less for the Envision Alternative than for the 2008 RTP, since mobility improves under the Envision Alternative, including that of heavy-duty trucks, putting less traffic pressure on neighboring counties. This impact would still be significant.

Cumulative Impact 3.7-6, which relates to the risk of disturbing contaminated sites during construction related to the region's growth as a whole, would be expected to be increased under the Envision Alternative since the Alternative would encourage even more infill and redevelopment than the 2008 RTP Alternative. However, this impact would still be less than significant with mitigation.

Land Use

Current land use practices would have to be changed to accommodate the Envision Alternative because the Envision Alternative focuses considerable growth onto the existing urban area around transit station, and existing centers. It does not allow further use of land for single-family development. To achieve the densities of the Envision Alternative, there would be a greater

chance of conflicting with general plans in the Envision Alternative than in the Plan Alternative. Because of this, the Envision Alternative would have greater impacts than the Plan.

Noise

The Envision Alternative includes the same transportation investments as the Plan. As a result, the Envision Alternative would have similar noise impacts as the 2008 RTP. For the same reason Impact 3.9-2, relating to the impact of noise-sensitive land uses directly adjacent to transportation facilities, would be the same with the Envision Alternative as the 2008 RTP.

Even though there are differences in the transportation projects, the number of sensitive receptors that would be impacted by noise under the Envision Alternative would be similar to the 2008 RTP. Therefore, there is no change to Impact 3.9-3.

Cumulative and ambient noise would increase in parts of the region where the growth is focused (urban centers, etc), but would be lesser than the Plan in rural areas that would not receive additional growth. Cumulative impacts would be generally similar compared to the 2008 RTP.

Open Space

The Envision Alternative's transportation network would have a lesser potential effect on agricultural lands and open space. New development to accommodate the additional population would consume fewer acres than the proposed Plan. Under the Envision Alternative approximately 111,000 acres would be urbanized compared to 250,000 under the Plan, including 22,790 acres of agriculture, 6,839 acres of open space and 81,640 acres of vacant land compared to 47,000 of agriculture, 11,104 acres of open space and 146,315 acres of vacant land under the Plan. This reduction in the amount of urbanized acres would result in a lesser cumulative effect than the Plan Alternative on agriculture and open space. In addition the Envision contribution to cumulatively considerable impacts to vacant land would be lesser.

Population, Employment and Housing

The Envision Alternative would have the same number of households, employment and population as the Plan. The impact of the induced population growth would be similar to the Plan, as both accommodate the same population increase.

The Envision Alternative would focus development in urban areas and existing communities and would have a greater emphasis on infill development. As a result, the Envision Alternative could result in an increase in the number of homes or businesses that are displaced.

Public Services and Utilities

Under the Envision Alternative, the need for police and fire/emergency services and solid waste services would be less than the Plan Alternative because the Envision Alternative focuses

development in urban areas where services currently exist. The potential to sever underground utility lines also would be less than the Plan Alternative.

The cumulative impact of new development to accommodate the additional population would generate approximately the same need for additional emergency personnel, schools, and solid waste services and would result in a similar chance of severing underground utility lines for the Envision Alternative as for the Plan Alternative. In addition, the emergency vehicle response times that results because of the growth distribution of the Envision Alternative would be similar to the Plan Alternative.

Security and Emergency Preparedness

The Envision Alternative would result in less risk for wildfire and/or mudslide destruction, compared to the Plan Alternative. The Envision Alternative is projected to result in approximately 111,000 additional urbanized acres, a little more than half of the Plan Alternative. The Envision Alternative thus would have a lesser cumulative effect than the Plan Alternative in inducing growth in areas with high threats of wild fires.

Under all the alternatives, policies and procedures at the local, State and federal level are in place regarding emergency procedures. These should not be impacted by any of the transportation plan alternatives.

Transportation

The Envision Alternative would result in less transportation impacts than the 2008 RTP. The Envision Alternative would result in 543 million daily VMT, less than the 2008 RTP's 552 million daily VMT, and the VMT in the base year, making it a beneficial impact. Daily hours of delay under the Envision Alternative would be 2.9 million person-hours for all vehicles and 0.404 million vehicle-hours for heavy-duty trucks. Comparatively, the 2008 RTP would produce 6.6 million person-hours of delay for all vehicles and 0.467 million vehicle-hours of delay for heavy-duty trucks.

The Envision Alternative would result in a greater percentage of work opportunities within 45 minutes travel time than the 2008 RTP. 80 percent of work trips could be made within 45 minutes by auto and by transit with the Envision Alternative, compared to 80 percent within 45 minutes by auto and 44% by transit with implementation of the 2008 RTP.

The effects of growth and other external factors are included in the Regional Travel Demand Model that produces the results reported above. Because these external factors are modeled, the cumulative effects of regional growth are captured in the VMT, VHT, and heavy-duty truck VHT data reported for the Envision Alternative above. The Envision Alternative would have less cumulative impacts than the 2008 RTP.

Water Resources

The Envision alternative includes the same transportation network as the Plan. Therefore, the direct impacts due to increased road runoff and drainage patterns would be the same as the Plan. Direct impacts to groundwater infiltration and increased flooding hazards, due to increased impervious surfaces of roads, would also be the same as the Plan (Impacts 3.15-2 and 3.15-3).

The Envision Alternative's cumulative water quality, groundwater recharge, and flood hazard impacts due to urban development patterns would be expected to be less than those of the 2008 RTP. The Envision Alternative would accommodate similar growth in population, but this Alternative includes further transportation and land use strategies that encourage a substantial portion of future growth to concentrate in existing urban centers through infill and redevelopment, to a greater extent than the 2008 RTP. The Envision Alternative also includes the same number of jobs and households as the Plan, but consumes roughly half as much land as the 2008 RTP.

The cumulative impacts on wastewater service capacity, due to the growth expected between the base year and 2035, would regionally be approximately the same in the Envision Alternative and the Plan. The total population in each county differs between the Envision Alternative and the Plan. Four counties are at or above their treatment capacity in the Envision Alternative, as for the Plan, but the impacts are distributed to different counties. In the Envision Alternative, Los Angeles County's wastewater treatment capacity would not be exceeded (as it is under the Plan scenario), and the impacts to Riverside and San Bernardino counties would be greater than under the Plan. Ventura would exceed its wastewater treatment capacity in the Envision scenario (though not in the Plan), and Imperial County would exceed its capacity as it would in the Plan. Though it is expected that services would be added as they are needed, for the purpose of determining significance of the impact, the future wastewater flow must be compared to the existing treatment capacity, and the impact of the Envision Alternative is significant and of similar regional magnitude as the Plan, though the impacts are distributed differently.

The Envision Alternative would distribute less growth within the MWD service area, and more to other water supply agencies than the Plan (see Table 3.15-6). These water agencies are smaller, and most occur in drier inland climates. Relative to the Plan Alternative, these factors would provide additional challenges in supplying municipal water to meet the demand associated with the Envision Alternative. The *existing* water supply and infrastructure would not be able to support the population in the Envision Alternative in 2035. Implementation of the mitigation measures associated with Impact 3.15-8 may provide future supply, but the *existing* supply still falls short of future demand. The impact would remain significant and greater in magnitude than for the Plan Alternative.

The Environmentally Superior Alternative

With less impact on vacant, open space/recreation and agricultural land and fewer and less severe impacts than the other Alternatives, the Envision Alternative, as fully analyzed above would be the environmentally superior alternative.

Impact	2008 RTP	No Project	2004 Modified RTP	Envision
3.1 AESTHETICS				
Impact 3.1-1: Construction and implementation of individual 2008 RTP projects could obstruct views of scenic resources or scenic vistas.	Significant	S-	S=	S=
Impact 3.1-2: Construction and implementation of projects in the RTP could potentially alter the appearance of scenic resources along or near designated scenic highways and vista points.	Significant	S-	S=	S=
Impact 3.1-3: Construction and implementation of projects included in the 2008 RTP could create significant contrasts with the overall visual character of the existing landscape setting or add urban visual elements to an existing natural, rural, and open space area.	Significant	S-	S=	S-
Cumulative Impact 3.1-4: Urbanization in the SCAG region will increase substantially by 2035. The 2008 RTP influences the pattern of this urbanization, by increasing mobility and including land-use-transportation measures. At the regional scale, the 2008 RTP's contribution to impacts on the overall visual character of the existing landscape setting would be cumulatively considerable.	Significant	S+	S+	S-
3.2 AIR QUALITY				
Impact 3.2-1: Under the Plan, long-term emissions of PM10 and PM2.5 would increase substantially, when compared to existing conditions (2008). PM10 would increase in the SCAB, San Bernardino portion of MDAB and Imperial County portion of SSAB, and PM2.5 emissions would increase in the SCAB; PM10 would increase in Los Angeles, Orange, Riverside and San Bernardino Counties, PM2.5 would increase in Los Angeles and Riverside Counties, as a result of on-road mobile sources. The increase in regional emissions of PM10 and PM2.5 would be considered a significant cumulative impact. Emissions of ROG, NOX, CO, and SOx would decrease when compared to 2008; this would be a beneficial impact.	Significant for PM10 and PM 2.5	S+	S=	S-
Impact 3.2-2: Long-term (operational) localized impacts resulting from freeway operations under the Plan would be reduced compared to today but would likely continue to exceed the locally acceptable cancer risk of one in one million. The cumulative impact is beneficial. The continuation of a pre-existing problem is not an impact of the	Less than significant	LTS	LTS	LTS

Impact	2008 RTP	No Project	2004 Modified RTP	Envision
plan or cumulative development.				
Impact 3.2-3: Emissions of criteria pollutants would increase under the plan as a result of construction of Plan projects and associated development in the region.	Significant	S-	S=	S=
Cumulative Impact 3.2-4: Cumulative development would result in on-road emissions discussed in previous impacts as well as train, airplane, ship and stationary and area sources of emissions. All emissions are anticipated to be consistent with applicable AQMPs and SIPs and within regional conformity emission budgets.	Less than Significant	LTS	LTS	LTS
Nonetheless, such increases in emissions would be significant.	Significant	S=	S=	S=
Cumulative Impact 3.2-5: The 2008 RTP would result in increased trips and VMT as well as increased growth in the region compared to today, resulting in increases in Greenhouse Gas (GHG) emissions.	Significant	S+	S=	S-
3.3 BIOLOGICAL RESOURCES				
Impact 3.3-1: Transportation projects included in the 2008 RTP on previously undisturbed land could displace natural vegetation, and thus habitat, some of which is utilized by sensitive species in the SCAG region.	Significant	S-	S-	S=
Impact 3.3-2: The 2008 RTP would potentially contribute to the fragmentation of existing habitat, decreasing habitat patch sizes, reducing habitat connectivity, and causing direct injury to wildlife. The 2008 RTP includes new transportation corridors that may form barriers to animal migration or foraging routes.	Significant	S-	S=	S=
Impact 3.3-3: The 2008 RTP includes new transportation facilities that could increase near-road human disturbances such as litter, trampling, light pollution and road noise in previously relatively inaccessible and undisturbed natural areas.	Significant	S-	S=	S=
Impact 3.3-4: The 2008 RTP projects would potentially damage natural vegetation and other habitat components as a result of trampling or off-road machinery during the construction phases for these projects. Direct fatalities to wildlife would also potentially occur.	Less than Significant	LTS	LTS	LTS
Impact 3.3-5: The 2008 RTP projects would potentially create noise, smoke, lights and/or other disturbances to biological resources during construction	Significant	S-	S=	S=

Impact	2008 RTP	No Project	2004 Modified RTP	Envision
phases for these projects.				
Impact 3.3-6: The 2008 RTP includes projects that would potentially displace riparian or wetland habitat.	Significant.	S-	S=	S=
Impact 3.3-7: The 2008 RTP would potentially increase siltation of streams and other water resources from exposures of erodible soils during construction activities.	Significant	S-	S=	S=
Impact 3.3-8: Implementation of the 2008 RTP would not conflict with any provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan (NCCP).	Less than Significant	LTS	LTS	LTS
Cumulative Impacts 3.3-9: Urbanization in the SCAG region will increase substantially by 2035. The 2008 RTP, by increasing mobility and including land-use-transportation measures, influences the pattern of this urbanization.	Significant	S+	S+	S-
3.4 CULTURAL RESOURCES				
Impact 3.4-1: Construction of projects from the 2008 RTP could cause a substantial adverse change in the significance of a historical resource.	Significant	S-	S=	S=
Impact 3.4-2: Construction of projects from the 2008 RTP could cause a substantial adverse change in the significance of an archaeological resource.	Significant	S-	S=	S=
Impact 3.4-3: Construction of projects from the 2008 RTP could directly or indirectly destroy unique paleontological resources or sites or unique geological features.	Significant	S-	S=	S=
Impact 3.4-4: Construction of projects from the 2008 RTP could disturb human remains, including those interred outside of formal cemeteries.	Significant	S-	S=	S=
Cumulative Impacts 3.4-5: Urbanization in the SCAG region will increase substantially by 2035. The 2008 RTP, by increasing mobility and by inclusion of land-use-transportation measures, influences the pattern of this urbanization. The 2008 RTP's influence on growth contributes to regional impacts to existing historic resources and previously undisturbed and undiscovered cultural resources, as described in Impacts 3.4-1 through 3.4-4 above. This impact would be cumulatively considerable.	Significant	S+	S+	S-
3.5 ENERGY				
Impact 3.5-1: The implementation of the 2008 RTP is likely to use electricity, natural gas, gasoline, diesel, and other non-renewable energy types in the	Significant	S-	S=	S-

Impact	2008 RTP	No Project	2004 Modified RTP	Envision
construction and expansion of the regional transportation system and development in the region between the current conditions and 2035.				
Impact 3.5-2: The implementation of the 2008 RTP is likely to substantially increase the consumption of electricity, natural gas, gasoline, diesel, and other non-renewable energy in the operation of the transportation system and operation of associated growth in the region between the current conditions and 2035.	Significant	S-	S=	S-
Impact 3.5-3: Implementation of the 2008 RTP has the potential to not fully address the greenhouse gas reduction levels identified in AB 32 (1990 levels by 2020).	Significant	S=	S-	S-
Cumulative Impact 3.5-4: Implementation of the investments and policies in the 2008 RTP would contribute to a cumulatively considerable increase in the amount of total energy consumed in the SCAG region between 2008 and 2035.	Significant	S=	S=	S-
3.6 GEOLOGY, SOILS AND SEISMICITY				
Impact 3.6-1: Implementation of the 2008 RTP could expose people or structures to potential substantial adverse effects, risk of surface rupture, ground shaking, liquefaction and landsliding or seismically-induced ground shaking or seiche waves.	Significant	S-	S=	S=
Impact 3.6-2: Significant earthwork associated with implementation of the 2008 RTP could result in substantial soil erosion and/or the loss of topsoil in some cases potentially resulting in slope failure.	Significant	S-	S=	S=
Impact 3.6-3: Projects included in the 2008 RTP could be located on expansive soils, a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse.	Significant	S-	S=	S=
Cumulative Impact 3.6-4: Urbanization in the SCAG region would increase substantially by 2035. The 2008 RTP, by increasing mobility and including land-use-transportation measures, influences the pattern of this urbanization. Implementation of the 2008 RTP would have the potential to result in a cumulatively considerable adverse effect on human beings and property when considered at the regional scale.	Significant	S=	S=	S-

Impact	2008 RTP	No Project	2004 Modified RTP	Envision
3.7 HAZARDOUS MATERIALS				
Impact 3.7-1: Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.	Less than Significant	LTS	LTS	LTS
Impact 3.7-2: The implementation of the 2008 RTP could create a hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment during transportation.	Significant	S-	S+	S=
Impact 3.7-3: The implementation of the 2008 RTP could create a hazard to the public or the environment by emitting hazardous materials within one-quarter mile of a school.	Significant	S-	S=	S=
Impact 3.7-4: The implementation of the 2008 RTP could create a hazard to the public or the environment through the disturbance of contaminated property during the construction of new transportation or expansion of existing transportation facilities.	Less than significant	LTS	LTS	LTS
Cumulative Impact 3.7-5: The 2008 RTP would contribute a cumulatively significant amount of hazardous material transportation impacts to areas outside of the SCAG region.	Significant	S+	S+	S-
Cumulative Impact 3.7-6: Implementation of the investments and policies in the 2008 RTP could create a potential hazard to the public or the environment by the disturbance of contaminated sites as a result of population and housing growth in the region.	Less than Significant	LTS	LTS	LTS
3.8 LAND USE				
Impact 3.8-1: The proposed 2008 RTP contains transportation projects and strategies to distribute the future growth in the region. These projects and strategies could result in inconsistencies with currently applicable adopted local land use plans and policies.	Significant	S-	S=	S+
Impact 3.8-2: The 2008 RTP contains transportation projects that have the potential to disrupt or divide established communities.	Significant	S-	S=	S+
Cumulative Impact 3.8-3: Urbanization in the SCAG region will increase substantially by 2035. The 2008 RTP, by increasing mobility and including land-use-transportation measures, influences the pattern of this urbanization. The 2008 RTP's influence on growth contributes to regional cumulatively considerable impacts to land use and would change the	Significant	S-	S+	S+

Impact	2008 RTP	No Project	2004 Modified RTP	Envision
intensity of land use in some areas.				
3.9 NOISE				
Impact 3.9-1: Grading and construction activities associated with the proposed freeway, arterial, transit and HSRT projects identified in the 2008 RTP would intermittently and temporarily generate noise levels above ambient background levels. Noise levels in the immediate vicinity of the construction sites would increase substantially sometimes for extended duration.	Significant	S-	S=	S=
Impact 3.9-2: Noise-sensitive land uses could be exposed to noise in excess of normally acceptable noise levels and/or could experience substantial increases in noise as a result of the operation of expanded or new transportation facilities (i.e., increased traffic resulting from new highways, addition of highway lanes, roadways, ramps, and new transit facilities as well as increased use of existing transit facilities, etc.).	Significant	S-	S=	S=
Cumulative Impact 3.9-3: Cumulative ambient noise levels could increase in urban areas of the region to exceed normally acceptable noise levels or have substantial increases in noise as a result of the operation of expanded or new transportation facilities (i.e., increased traffic resulting from new highways, addition of highway lanes, roadways, ramps, and new use of new transit facilities as well as increased use of existing transit facilities, etc.).	Significant	S-	S=	S=
3.10 OPEN SPACE				
Impact 3.10-1: Implementation of the proposed 2008 RTP could result in substantial disturbance and/or loss of prime farmlands and/or grazing lands, throughout the six-county SCAG region.	Significant	S-	S=	S=
Impact 3.10-2: Implementation of the projects included in the 2008 RTP would result in a substantial loss or disturbance of existing open space and recreation lands.	Significant	S+	S+	S-
Impact 3.10-3: Implementation of the 2008 RTP could increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial deterioration of the facilities would occur; or could result in a decrease in performance objectives for existing parks.	Significant	S+	S+	S-
Cumulative Impact 3.10-4: Urbanization in the SCAG region will increase substantially by 2035. The 2008 RTP, by increasing mobility and	Significant	S+	S+	S-

Impact	2008 RTP	No Project	2004 Modified RTP	Envision
including land-use-transportation measures, influences the pattern of this urbanization. The 2008 RTP's influence on growth patterns contributes to regional cumulatively considerable impacts to open space and result in a loss of open space and agricultural lands in the region.				
3.11 POPULATION, HOUSING AND EMPLOYMENT				
Impact 3.11-1: Implementation of the 2008 RTP could facilitate substantial population growth to some areas of the region.	Significant	S-	S=	S=
Impact 3.11-2: Implementation of the 2008 RTP projects could require the acquisition of rights-of-way that could displace a substantial number of existing homes and businesses.	Significant	S-	S=	S+
Cumulative Impact 3.11-3: Urbanization in the SCAG region will increase substantially by 2035. The 2008 RTP, by increasing mobility and including land-use-transportation measures, influences the pattern of this urbanization. The 2008 RTP's influence on growth contributes to regional cumulatively considerable impacts to currently vacant natural land.	Significant	S-	S+	S+
3.12 PUBLIC SERVICES AND UTILITIES				
Impact 3.12-1: Construction and implementation of the 2008 RTP would affect the level of transportation-related public services facilities, such as police and fire/emergency personnel and associated stations or other public facilities in the SCAG region.	Less than Significant	LTS	LTS	LTS
Impact 3.12-2: Construction necessary to implement the 2008 RTP may uncover and potentially sever underground utility lines (electric and natural gas).	Less than Significant	LTS	LTS	LTS
Impact 3.12-3: Construction necessary to implement the 2008 RTP would affect the demand for solid waste services in the SCAG region.	Less than Significant	LTS	LTS	LTS
Cumulative Impact 3.12-4: Urbanization in the SCAG region will increase substantially by 2035. The 2008 RTP, by increasing mobility and including land-use-transportation measures, influences the pattern of this urbanization. The 2008 RTP's influence on growth contributes to regional cumulatively considerable impacts to the response times of police and fire and emergency services in the SCAG region.	Less than Significant	LTS	LTS	LTS

Impact	2008 RTP	No Project	2004 Modified RTP	Envision
Cumulative Impact 3.12-5: Urbanization in the SCAG region will increase substantially by 2035. The 2008 RTP, by increasing mobility and including land-use-transportation measures, influences the pattern of this urbanization. The 2008 RTP's influence on growth contributes to regional cumulatively considerable impacts to the staffing level of police and fire and emergency services in the SCAG region.	Significant	S=	S=	S=
Cumulative Impact 3.12-6: Urbanization in the SCAG region will increase substantially by 2035. The 2008 RTP, by increasing mobility and by inclusion of land-use-transportation measures, influences the pattern of this urbanization. The 2008 RTP's influence on growth contributes to regional cumulatively considerable impacts to the number of school-age children and the demand for school facilities in different parts of the SCAG region.	Significant	S=	S=	S=
Cumulative Impact 3.12-7: Urbanization in the SCAG region will increase substantially by 2035. The 2008 RTP, by increasing mobility and including land-use-transportation measures, influences the pattern of this urbanization. The 2008 RTP's influence would create a cumulatively considerable impact to the demand for solid waste services in the SCAG region.	Significant	S=	S=	S=
3.13 SECURITY AND EMERGENCY PREPAREDNESS				
Impact 3.13-1: Implementation of the 2008 RTP could impair transportation safety, security, and reliability for people and goods in the region.	Significant	S+	S=	S=
Impact 3.13-2: The RTP has the potential to inhibit the prevention, protection, response to, and recovery from major human-caused or natural events that could create a significant hazard to the public threatening and impacting lives, property, the transportation network and the regional economy.	Significant	S+	S=	S=
Impact 3.13-3: Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.	Less than Significant	LTS	LTS	LTS
Cumulative Impact 3.13-4: Urbanization in the SCAG region will increase substantially by 2035. The 2008 RTP, by increasing mobility and including land-use-transportation	Significant	S+	S+	S-

Impact	2008 RTP	No Project	2004 Modified RTP	Envision
measures, influences the pattern of this urbanization. The 2008 RTP's influence on growth contributes to regional cumulatively considerable fire threat to development in the SCAG region.				
3.14 TRANSPORTATION				
Impact 3.14-1: In 2035 there would be substantially more total daily Vehicle Miles of Travel (VMT) than the current daily VMT. Implementation of the 2008 RTP would contribute to this increase.	Significant	S+	S=	S=
Impact 3.14-2: In 2035 there would be substantially higher average Vehicle Hours Traveled (VHT) in delay than the current condition. Implementation of the 2008 RTP would contribute to this increase.	Significant	S+	S=	S=
Impact 3.14-3: In 2035 there would be substantially greater average daily VHT in delay for heavy-duty truck trips than the current condition. Implementation of the 2008 RTP would contribute to this increase.	Significant	S+	S=	S=
Impact 3.14-4: Implementation of the 2008 RTP would contribute to an increase in the percent of work opportunities within 45 minutes travel time by personal vehicle or by transit in 2035, relative to the existing condition.	Beneficial	B	B	B
Impact 3.14-5: Implementation of the 2008 RTP would contribute to a lower system-wide fatality accident rate for all travel modes in 2035 compared to the existing condition.	No Impact	N	N	N
Impact 3.14-6: Implementation of the 2008 RTP would contribute to a lower system-wide injury accident rate for all travel modes in 2035 compared to the existing condition.	Beneficial	N	B	B
Cumulative Impact 3.14-7: Implementation of the 2008 RTP would contribute to a cumulatively considerable amount of transportation impacts, such as VMT and all-vehicle VHT in delay, to counties outside of the SCAG region.	Significant	S+	S=	S=
3.15 WATER RESOURCES				
Impact 3.15-1: Local surface water quality could be degraded by increased roadway runoff created by RTP projects, potentially violating water quality standards associated with wastewater and stormwater permits. RTP projects could alter the existing drainage patterns in ways that would result in substantial erosion or siltation.	Significant	S-	S=	S=
Impact 3.15-2: Increased impervious surfaces due to transportation projects would reduce groundwater infiltration.	Significant	S-	S=	S=

Impact	2008 RTP	No Project	2004 Modified RTP	Envision
Impact 3.15-3: The 2008 RTP could increase flooding hazards, by placing transportation investments, on alluvial fans and within 100-year flood hazard areas.	Less than Significant	LTS	LTS	LTS
Cumulative Impact 3.15-4: Urbanization in the SCAG region will increase substantially by 2035. The 2008 RTP, by increasing mobility and by including land-use-transportation measures, influences the pattern of this urbanization. The 2008 RTP's influence on growth would contribute to the conversion of undeveloped land to urban uses, resulting in impacts to water quality.	Significant	S+	S+	S-
Cumulative Impact 3.15-5: Urbanization in the SCAG region will increase substantially by 2035. The 2008 RTP, by increasing mobility and by inclusion of land-use-transportation measures, influences the pattern of this urbanization. The 2008 RTP's influence on growth would contribute to the conversion of undeveloped land to urban uses, resulting in impacts to stormwater infiltration and groundwater recharge.	Significant	S+	S+	S-
Cumulative Impact 3.15-6: Urbanization in the SCAG region will increase substantially by 2035. The 2008 RTP, by increasing mobility and including land-use-transportation measures, influences the pattern of this urbanization. The 2008 RTP's influence on growth would contribute to the conversion of undeveloped land to urban uses, resulting in flooding hazard impacts.	Significant	S+	S+	S-
Cumulative Impact 3.15-7: Urbanization in the SCAG region will increase substantially by 2035. The 2008 RTP, by increasing mobility and by including land-use-transportation measures, influences the pattern of this urbanization. The 2008 RTP's influence on growth would contribute to the need for increased wastewater treatment capacity in the region by 2035. The proposed Plan influences population growth, resulting in an indirect and cumulative impact on wastewater treatment services.	Significant	S=	S=	S+
Cumulative Impact 3.15-8: Urbanization in the SCAG region will increase substantially by 2035. The 2008 RTP, by increasing mobility and by inclusion of land-use-transportation measures, influences the pattern of this urbanization. The 2008 RTP's influence on growth would contribute to an increased demand for water supply and its associated infrastructure. Water	Significant	S=	S=	S=

Impact	2008 RTP	No Project	2004 Modified RTP	Envision
agencies in the SCAG region produce many long-range planning studies to provide a system adequate to supply water demand, however the *existing* water supplies and infrastructure would not be sufficient to meet the expected demand in 2035.				